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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,298	09/21/2000	Jacobus C. Haartsen	040071-247	8507
21839	7590	10/14/2004	EXAMINER	
BURNS DOANE SWECKER & MATHIS L L P POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			NGUYEN, TOAN D	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 10/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/666,298	HAARTSEN, JACOBUS C.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Toan D Nguyen	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 24 June 2004.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-24 and 26-33 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) 1-18 is/are allowed.

6) Claim(s) 19-21,24,27-29 and 32 is/are rejected.

7) Claim(s) 22,23,26,30,31 and 33 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 24 June 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 19 line 4, recites the limitation “the fast frequency hopping traffic channel” lack clear antecedent basis.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sarkioja et al (US 5,774,808) in view of Bird (US 6,519,245).

For claim 19, Sarkioja et al disclose method for channel allocation in a cellular communication system, the method comprising the steps of:

establishing a frequency hopping traffic channel between a first and a second communication unit (figure 3, reference TRX2-TRX4, col. 3 lines 20-21 and col. 4 lines 34-37), having a set of the plurality of time slots (figure 3, col. 3 lines 20-24) and a first set of hop carrier frequencies within the frequency spectrum (figure , col. 3 lines 38-42); and

establishing a static traffic channel between a third and a fourth communication unit (figure 3, reference TRX1, col. 3 lines 17-20 and col. 4 lines 29-34), the static traffic channel

(figure 3, reference TRX1) having a carrier frequency within the frequency spectrum (col. 3 lines 42-44). However, Sarkioja et al do not disclose a fast frequency hopping traffic channel. In an analogous art, Bird discloses the fast frequency hopping traffic channel (col. 3 line 30).

One skilled in the art would have recognized a fast frequency hopping traffic channel to use the teachings of Bird in the system of Sarkioja et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the fast frequency hopping traffic channel as taught by Bird in Sarkioja et al's system with the motivation being to provide other types of channels, such as fast frequency hopping where each time slot has a frequency hop pattern, slow or fast phase code modulation, time division, or the like could be used (col. 3 lines 29-32).

4. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarkioja et al (US 5,774,808) in view of Bird (US 6,519,245) further in view of Ishifuji et al (US 6,061,389).

For claims 20 and 21, Sarkioja et al in view of Bird do not disclose the step of communicating one or more first data packets on one or more of the set of the plurality of time slots from the first communication unit to the second communication unit over the fast frequency hopping traffic channel at a rate of between 1-3 Mb/s. In an analogous art, Ishifuji et al. disclose the fast frequency hopping traffic channel at a rate of between 1-3 Mb/s (col. 2 lines 23-28).

Ishifuji et al. disclose further the step of communicating one or more first data packets from the third communication unit to the fourth communication unit over the static traffic channel at a rate exceeding 5 Mb/s (col. 2 lines 23-28 as set forth in claim 21).

One skilled in the art would have recognized the fast frequency hopping traffic channel at a rate of between 1-3 Mb/s to use the teachings of Ishifiji et al. in the system of Bird. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the fast frequency hopping traffic channel at a rate of between 1-3 Mb/s as taught by Ishifiji et al. in Bird's system with the motivation being arranged so that one hop occurs within some symbols (col. 2 lines 23-26).

5. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sarkioja et al (US 5,774,808) in view of Bird (US 6,519,245) further in view of Trompower et al (US 6,088,591).

For claim 24, Sarkioja et al in view of Bird disclose further comprising the steps of establishing the frequency hopping traffic channel between the first, the second, and the third communication unit (figure 3, reference TRX2-TRX4, col. 3 lines 20-21 and col. 4 lines 34-37). However, Sarkioja et al in view of Bird do not disclose wherein a beacon packet is transmitted to the third communication unit, the beacon packet associated with the frequency hopping traffic channel. In an analogous art, Trompower et al disclose wherein a beacon packet is transmitted to the third communication unit, the beacon packet associated with the frequency hopping traffic channel (col. 4 lines 38-39).

One skilled in the art would have recognized a beacon packet is transmitted to use the teachings of Trompower et al in the system of Sarkioja et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the beacon packet is transmitted as taught by Trompower et al in Sarkioja et al's system with the motivation being to allow for signal quality evaluation (col. 4 lines 40-41).

6. Claims 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Poyhonen (US 5,570,352) in view of Sarkioja et al (US 5,774,808).

For claim 27, Poyhonen discloses digital cellular network/system with mobile stations communicating with base stations using frequency-hopping and having enhanced effect of interference diversity, the apparatus comprising:

an air interface (figure 1, col. 3 lines 44-47); and

a first, second, third, and fourth communication unit coupled together over an air interface (figure 1, references 11 and 12) (col. 3 lines 44-53).

However, Poyhonen do not disclose the first communication unit is configured to:

establish a frequency hopping traffic channel between the first and the second communication unit, the frequency hopping traffic channel having a set of the plurality of time slots and a first set of hop carrier frequencies within the frequency spectrum; and

establish a static traffic channel between the third and the fourth communication unit, the static traffic channel having a carrier frequency within the frequency spectrum.

In an analogous art, Sarkioja et al disclose the first communication unit is configured to:

establishing a frequency hopping traffic channel between a first and a second communication unit (figure 3, reference TRX2-TRX4, col. 3 lines 20-21 and col. 4 lines 34-37), having a set of the plurality of time slots (figure 3, col. 3 lines 20-24) and a first set of hop carrier frequencies within the frequency spectrum (figure , col. 3 lines 38-42); and

establishing a static traffic channel between a third and a fourth communication unit (figure 3, reference TRX1, col. 3 lines 17-20 and col. 4 lines 29-34), the static traffic channel

(figure 3, reference TRX1) having a carrier frequency within the frequency spectrum (col. 3 lines 42-44).

One skilled in the art would have recognized establishing a frequency hopping traffic channel between a first and a second communication unit to use the teachings of Sarkioja et al in the system of Poyhonen. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the establishing a frequency hopping traffic channel between a first and a second communication unit as taught by Sarkioja et al in Poyhonen's system with the motivation being to provide a method for allocating radio channel in a cellular communication system (Abstract lines 1-2).

7. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poyhonen (US 5,570,352) in view of Sarkioja et al (US 5,774,808) further in view of Ishifuji et al (US 6,061,389).

For claims 28 and 29, Poyhonen in view of Sarkioja et al does not disclose wherein the first communication unit is further configured to communicate one or more first data packets on one or more of the first set of the plurality of time slots from the first communication unit to the second communication unit over the frequency hopping traffic channel at a rate of between 1-3 Mb/s.

In an analogous art, Ishifuji et al disclose wherein the first communication unit is further configured to communicate one or more first data packets on one or more of the first set of the plurality of time slots from the first communication unit to the second communication unit over the frequency hopping traffic channel at a rate of between 1-3 Mb/s (col. 2 lines 23-28). Ishifuji et al disclose wherein the third communication unit is further configured to communicate one or

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more first data packets from the third communication unit to the fourth communication unit over the static traffic channel at a rate exceeding 5 Mb/s (col. 2 lines 23-28 as set forth in claim 29).

One skilled in the art would have recognized the frequency hopping traffic channel at a rate of between 1-3 Mb/s to use the teachings of Ishifuji et al. in the system of Bird. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the frequency hopping traffic channel at a rate of between 1-3 Mb/s as taught by Ishifuji et al. in Bird's system with the motivation being arranged so that one hop occurs within some symbols (col. 2 lines 23-26).

8. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Poyhonen (US 5,570,352) in view of Sarkioja et al (US 5,774,808) further in view of Trompower et al (US 6,088,591).

For claim 32, Poyhonen does not disclose establishing the frequency hopping traffic channel between the first, the second, and the third communication unit; and

wherein a beacon packet is transmitted to the third communication unit, the beacon packet associated with the frequency hopping traffic channel.

In an analogous art, Sarkioja et al disclose the steps of:  
establishing the frequency hopping traffic channel between the first, the second, and the third communication unit (figure 3, reference TRX2-TRX4, col. 3 lines 20-21 and col. 4 lines 34-37).

However, Poyhonen in view of Sarkioja et al does not disclose wherein a beacon packet is transmitted to the third communication unit, the beacon packet associated with the frequency hopping traffic channel. In an analogous art, Trompower et al disclose wherein a beacon packet

is transmitted to the third communication unit, the beacon packet associated with the frequency hopping traffic channel (col. 4 lines 38-39).

One skilled in the art would have recognized a beacon packet is transmitted to use the teachings of Trompower et al in the system of Poyhonen. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the beacon packet is transmitted as taught by Trompower et al in Poyhonen's system with the motivation being to allow for signal quality evaluation (col. 4 lines 40-41).

***Response to Arguments***

9. Applicant's arguments with respect to claims 1-33 have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

10. Claims 22-23, 26, 30-31 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 1-18 are allowed.

Regarding claims 1 and 10, the prior art fails to teach a combination of the steps of establishing a fast frequency hopping traffic channel between a first and a second communication unit, the fast frequency hopping traffic channel having a set of the plurality of time slots and a first set of hop carrier frequencies within the frequency spectrum; and establishing a slow frequency hopping traffic channel between a third and a fourth communication unit, the slow frequency hopping traffic channel having a second set of hop

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carrier frequencies within the frequency spectrum, in the specific combination as recited in the claims.

***Contact Information***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan D Nguyen whose telephone number is 703-305-0140. The examiner can normally be reached on Monday- Friday (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Huy Vu can be reached on 703-308-6602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*TN*  
TN



STEVEN NGUYEN  
PRIMARY EXAMINER

<b>Notice of References Cited</b>		Application/Control No.	Applicant(s)/Patent Under Reexamination	
		09/666,298	HAARTSEN, JACOBUS C.	
Examiner Toan D Nguyen		Art Unit 2665	Page 1 of 1	

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-5,774,808	06-1998	Sarkioja et al.	455/436
	B	US-5,570,352	10-1996	Poyhonen, Petri	370/330
	C	US-6,088,591	07-2000	Trompower et al.	455/438
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

## NOTICE OF DRAFTSPERSON'S PATENT DRAWING REVIEW

The drawing(s) filed (insert date) 9/21/00

A.  approved by the Draftsperson under 37 CFR 1.84 or 1.152.

B.  objected to by the Draftsperson under 37 CFR 1.84 or 1.152 for the reasons indicated below. The Examiner will require submission of new, corrected drawings when necessary. Corrected drawing must be submitted according to the instructions on the back of this notice.

<p><b>1. DRAWINGS.</b> 37 CFR 1.84(a): Acceptable categories of drawings:        Black ink. Color.  <input type="checkbox"/> Color drawings are not acceptable until petition is granted.        Fig(s) _____</p> <p><input type="checkbox"/> Pencil and non black ink not permitted. Fig(s) _____</p> <p><b>2. PHOTOGRAPHS.</b> 37 CFR 1.84(b)  <input type="checkbox"/> 1 full-tone set is required. Fig(s) _____        Photographs may not be mounted. 37 CFR 1.84(c)  <input type="checkbox"/> Poor quality (half-tone). Fig(s) _____</p> <p><b>3. TYPE OF PAPER.</b> 37 CFR 1.84(e)  <input type="checkbox"/> Paper not flexible, strong, white, and durable.        Fig(s) _____  <input type="checkbox"/> Erasures, alterations, overwritings, interlineations, folds, copy machine marks not accepted. Fig(s) _____  <input type="checkbox"/> Mylar, velum paper is not acceptable (too thin). Fig(s) _____</p> <p><b>4. SIZE OF PAPER.</b> 37 CFR 1.84(f): Acceptable sizes:  <input type="checkbox"/> 21.0 cm by 29.7 cm (DIN size A4)  <input type="checkbox"/> 21.6 cm by 27.9 cm (8 1/2 x 11 inches)  <input type="checkbox"/> All drawing sheets not the same size.        Sheet(s) _____  <input type="checkbox"/> Drawings sheets not an acceptable size. Fig(s) _____</p> <p><b>5. MARGINS.</b> 37 CFR 1.84(g): Acceptable margins:        Top 2.5 cm Left 2.5cm Right 1.5 cm Bottom 1.0 cm        SIZE: A4 Size        Top 2.5 cm Left 2.5 cm Right 1.5 cm Bottom 1.0 cm        SIZE: 8 1/2 x 11 <u>3 1/4</u>  <input type="checkbox"/> Margins not acceptable. Fig(s) _____        Top (T) <u>S</u> Left (L) <u>3 1/4</u>        Right (R) <u>S</u> Bottom (B) <u>1</u></p> <p><b>6. VIEWS.</b> 37 CFR 1.84(h)        REMINDER: Specification may require revision to correspond to drawing changes.        Partial views. 37 CFR 1.84(h)(2)  <input type="checkbox"/> Brackets needed to show figure as one entity.        Fig(s) _____  <input type="checkbox"/> Views not labeled separately or properly.        Fig(s) _____  <input type="checkbox"/> Enlarged view not labeled separately or properly.        Fig(s) _____</p> <p><b>7. SECTIONAL VIEWS.</b> 37 CFR 1.84(h)(3)  <input type="checkbox"/> Hatching not indicated for sectional portions of an object.        Fig(s) _____  <input type="checkbox"/> Sectional designation should be noted with Arabic or Roman numbers. Fig(s) _____</p>	<p><b>8. ARRANGEMENT OF VIEWS.</b> 37 CFR 1.84(j)  <input type="checkbox"/> Words do not appear on a horizontal, left-to-right fashion when page is either upright or turned so that the top becomes the right side, except for graphs. Fig(s) _____</p> <p><b>9. SCALE.</b> 37 CFR 1.84(k)  <input type="checkbox"/> Scale not large enough to show mechanism without crowding when drawing is reduced in size to two-thirds in reproduction.        Fig(s) _____</p> <p><b>10. CHARACTER OF LINES, NUMBERS, &amp; LETTERS.</b>        37 CFR 1.84(i)  <input checked="" type="checkbox"/> Lines, numbers &amp; letters not uniformly thick and well defined, clear, durable, and black (poor line quality).        Fig(s) <u>4</u></p> <p><b>11. SHADING.</b> 37 CFR 1.84(m)  <input type="checkbox"/> Solid black areas pale. Fig(s) _____  <input type="checkbox"/> Solid black shading not permitted. Fig(s) _____  <input type="checkbox"/> Shade lines, pale, rough and blurred. Fig(s) _____</p> <p><b>12. NUMBERS, LETTERS, &amp; REFERENCE CHARACTERS.</b>        37 CFR 1.84(p)  <input type="checkbox"/> Numbers and reference characters not plain and legible.        Fig(s) _____  <input type="checkbox"/> Figure legends are poor. Fig(s) _____  <input type="checkbox"/> Numbers and reference characters not oriented in the same direction as the view. 37 CFR 1.84(p)(1)        Fig(s) _____  <input type="checkbox"/> English alphabet not used. 37 CFR 1.84(p)(2)        Figs _____  <input type="checkbox"/> Numbers, letters and reference characters must be at least .12 cm (1/8 inch) in height. 37 CFR 1.84(p)(3)        Fig(s) _____</p> <p><b>13. LEAD LINES.</b> 37 CFR 1.84(q)  <input type="checkbox"/> Lead lines cross each other. Fig(s) _____  <input type="checkbox"/> Lead lines missing. Fig(s) _____</p> <p><b>14. NUMBERING OF SHEETS OF DRAWINGS.</b> 37 CFR 1.84(i)  <input type="checkbox"/> Sheets not numbered consecutively, and in Arabic numerals beginning with number 1. Sheet(s) _____</p> <p><b>15. NUMBERING OF VIEWS.</b> 37 CFR 1.84(u)  <input type="checkbox"/> Views not numbered consecutively, and in Arabic numerals, beginning with number 1. Fig(s) _____</p> <p><b>16. CORRECTIONS.</b> 37 CFR 1.84(w)  <input type="checkbox"/> Corrections not made from prior PTO-948 dated _____</p> <p><b>17. DESIGN DRAWINGS.</b> 37 CFR 1.152  <input type="checkbox"/> Surface shading shown not appropriate. Fig(s) _____  <input type="checkbox"/> Solid black shading not used for color contrast.        Fig(s) _____</p>
<b>COMMENTS</b>	

REVIEWER R.O. DATE 12/2/00 TELEPHONE NO. \_\_\_\_\_

ATTACHMENT TO PAPER NO. 6

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